

SECOND NOTICE OF EXTINCT VERTEBRATES FROM BITTER
CREEK, WYOMING.

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PALÆOSYOPS VALLIDENS. Cope. Sp. nov.

Represented by the dentition of one maxillary bone with other bones of one individual; a portion of the same dentition of a second; with both rami of the mandible with complete dentition of a third. The species is distinguished by the details of the dental structure, and by the superior size. It exceeds, in this respect, the *Palæosyops major*, Leidy; while the three posterior lower molars measure 4.5 inches in length, the same teeth of the present animal measure 5.25 inches. The last superior molar of another specimen measures 2 inches in length; in the third the first true molar is 1.5 inch in length, while the last inferior molar is 2.25 inches long. The peculiarity in the structure of the superior molars consists in the existence of two strong transverse ridges, which connect the inner tubercle with the outer crescents, enclosing a pit between them. These are most marked on the premolars, where also is found the peculiarity of the almost entire fusion of the outer crescents into a single ridge. These united crescents are narrower than in *P. major*, and the summits of all the crescents are relatively more elevated. The number of inner tubercles is the same as in that species; all the teeth have very strong basal cingula, which rise up on the inner tubercle. The last inferior molar is relatively narrower than in *P. major*, and the posterior tubercle is larger and longer, and is an elevated cone.

This species is, after those next described, the largest mammal of the Wyoming Eocene.

LOXOLOPHODON. Cope.

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The discovery of the remains of numerous animals of this genus, confirm the propriety of its separation from *Bathmodon*. The characters are as follows:

Type of extremities Proboscidian. Femur without third trochanter, toes short, stout. Dentition: I. 1; C. 0; P. M. 4; M. 2. The premaxillary is at the posterior margin of that bone, and is a large recurved trenchant tusk. There is a long edentulous interval between it and the first premolar, which is smaller than the others. These support an outer crescent and a small inner tubercle. In the anterior premolars, the crescent is nearly straight, in the posterior more curved. With use, the crescent and tubercle wear together and form a short lance-head surface. The crescent is angular, and occupies the whole crown in the molars, and the tubercle is small and not symmetrically placed. The teeth on the maxillary bone are remarkably small for the size of the animal. Lower jaw not observed.

The cranium presents a remarkable appearance on account of the pro-

longation of the muzzle. In front of the zygomatic arches, the form is compressed and roof-like above. Above the tusks the nasals expand, and are produced to a great distance, terminating in osseous prominences. The premaxillaries are also much produced; their anterior part is slender and toothless, and does not extend so far as the nasals.

The orbit is not inclosed behind, and has no marked superciliary or other margin. Above it, on each side, a horn-core is given off, the pair diverging from approximated bases. Occiput vertical.

The affinities of this genus are not close to any known, excepting *Bathmodon*. This has the six premaxillaries of usual proportions, at least three true molars, and the posterior premolars with three crescents. The general relationships are proboscidian, and associated in some measure with *Synoplotherium*, *Auchippodus* and *Pseudotomus*.

Besides the *L. semicinctus*, Cope, originally described, the researches under Prof. Hayden's Geological Survey, have determined the existence of two or three other species of much larger size.

LOXOLOPHODON CORNUTUS. Cope.

Eobasilus cornutus. Cope.

Established on portions of several skeletons, including one with femur, pelvis, scapula, vertebræ and cranium. The latter measures about thirty-four inches in length. The horn-cores are very stout and sub-triangular in section at base and with a rudimental knob on the inner side; height seven inches about. A massive protuberance of a recurved lobate outline rises on the anterior margins of the nasal bones on each side. They meet, leaving an emargination in front, giving the nasal bones a bi-lobed outline. The iliac bones are very wide, the expanse of both together being fifty-four inches. The centrum of a sacral vertebra is four inches in diameter.

LOXOLOPHODON FURCATUS. Cope.

This species is indicated by portions of the nasal bones. These have differed in form materially from those of the *L. cornutus*. The convex protuberances seen in *L. cornutus* were here represented by processes of singular form. They were compressed, narrowed at the base, and expanded distally into a flat spatulate body. The whole process measures seven to eight inches in length, and three and a-half in width distally. The animal could not have been materially smaller than the *L. cornutus*.

LOXOLOPHODON PRESSICORNIS. Cope.

Established on numerous remains, including horn-cores of species similar in size to the last. Its marked peculiarity, as first noticed, consists in the compression of the horn-cores throughout the proximal half of their length, with their more acuminate form, than in *L. cornutus*. They measure also about seven inches in length.

The affinities of these remarkable animals will be shortly discussed.

They were the gigantic mammals of our Eocene period, representing the Elephants and Mastodons of the Miocene, which they equalled in size.